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To:Glenn Passavant/AA/USEPA/US@EPA
cc: Linc Wehrly/AA/USEPA/US@EPA, Alan Stout/AA/USEPA/US@EPA, "Pamela Amette (E-mail)" <pamette@mic.org>
Subject: MIC Comments Re Tech Amendments

Glenn:

Pamela Amette asked me to forward the attached letter to you. As you will see, it contains suggested changes that will make it possible for MIC to accept the increased stringency of the changes included in the Tech Amendments to the permeation test procedures.

I hope the suggested changes to the permeation test are clear. The are merely intended to prevent unrepresentative pressurization of the tank during the test. The proposed delay in the gas cap testing is basically to deal with the leadtime issue on a month-for-month basis since the November 8, 2002 publication of the current regulation, which specifically excludes the gas cap.

Regards,
Tom Austin

MICResponseNonroadTechAmendment.c

June 25, 2004

Mr. Glenn Passavant
U.S. Environmental Protection Agency
National Vehicle and Fuel Emissions Laboratory
2000 Traverwood
Ann Arbor, MI 48105

Dear Glenn:

During our June 17 teleconference on the draft nonroad rule technical amendments, you suggested that MIC provide written comments and the supporting rationale within the following week regarding the issues outlined below.

Our members are especially concerned about changes made to the permeation requirements. The changes of concern involve (1) requiring the use of gas caps and other fittings during the tank permeation test; (2) requiring the initial tank weight during the permeation test to be made within 8 hours; and (3) designating the test as void if a linear plot of tank weight vs. test days yields an r-squared value below 0.8.

By modifying 1051.515(a)(5) to require "fuel caps and other fittings that would be used to seal openings in a production fuel tank," the test will be more stringent than when the testing is done with the "non-permeable fittings" that are currently specified in the regulation. This proposed amendment fundamentally changes the stringency of the regulation by requiring other potential sources of permeation to be added to the test. In addition, this proposed change would require backtracking on development programs that have already been initiated by member companies. We feel a delay in this requirement until the 2010 model year is well justified as it was introduced one and a half years after the final rule was adopted on November 8, 2002. One other problem with this change that we failed to mention during our telephone conversation is that running the permeation test with the gas cap in place could subject the gas cap to higher pressure than it actually is subjected to in customer service. This could occur because the tank is required to be sealed during the permeation test and pressure could build up that would otherwise be vented (to a charcoal canister if the vehicle is so equipped). As a result, there is a potential for the emissions through the cap and its sealing gasket to be unrealistically elevated unless the testing is done in a manner to prevent pressurization of the cap.

In response to the concerns expressed during our discussion, you agreed to (1) reinstate the use of non-permeable fittings for all tank openings other than the gas cap, (2) allow, at least on an interim basis, manufacturers to use alternative methods to demonstrate that permeation through the gas cap will not be significant, and (3) to consider MIC's recommendations for a change in the proposed 8-hour window for starting the permeation test after switching from E10 to non-oxygenated gasoline.

We propose the following language for 1051.515(a)(3)-(5) to implement the changes you already agreed to, to insure that gas cap pressurization does not occur, and to provide additional lead time for including the gas cap in the test procedure:

"(3) Fill the fuel tank with the test fuel specified in § 1051.501(d)(2)(ii) to its nominal capacity. The temperature of the fuel shall not be higher than 20±2 °C. If you fill the tank inside the temperature-controlled room or enclosure, do not spill any fuel.

(4) Allow the tank and its contents to equilibrate to 28±2 °C. During the equilibration process, have the gas cap loosely in place or open a vent so that any vapors generated during equilibration can escape.

(5) Seal the gas cap opening with the same design of gas cap that will be used on production vehicles. Prior to model year 2010, the gas cap opening may be sealed with a non-permeable fitting. Beginning in 2010, the gas cap opening may be sealed with a non-permeable fitting only if an alternative testing procedure is approved by EPA for the gas cap. Gas cap tests using an alternative procedure must demonstrate that permeation through the cap and any sealing gasket would not cause the total permeation from the tank and cap to exceed the allowable permeation per area of tank surface. Seal all other tank openings using non-permeable fittings such as metal or fluoropolymer plugs."

The other two issues of concern are linked. By requiring the initial tank weight during the permeation test to be made within 8 hours, testing will begin before the E10 fuel has been purged from the walls of the tank. This will result in a decreasing, non-linear permeation rate making it difficult to achieve the r-squared value specified in proposed section 1051.515(b)(7). The only reason non-oxygenated test fuel is allowed during the permeation emissions test is that EPA agreed that our member companies would not be required to use E10 during the final test provided that we used E10 during durability testing and demonstrated that the materials used would not significantly deteriorate in the presence of ethanol. Unless we can adequately precondition the tank on non-oxygenated fuel, the option to use non-oxygenated fuel becomes meaningless.

For tanks with near-zero permeation, no significant preconditioning period is required; however, some tanks are expected to require more than 1 week preconditioning in order to achieve reasonably linear weight loss vs. time after switching from E10. We therefore recommend the following change to 1051.515(b)(1):

"Weigh the sealed fuel tank and record the weight to the nearest 0.1 grams. (You may use less precise weights as long as the difference in mass from the start of the test to the end of the test has at least three significant figures.) Take this measurement within 8 hours of filling the tank with test fuel as specified in paragraph (a)(3) of this section unless the manufacturer determines that a longer period of time, not exceeding two weeks, is necessary to achieve a stabile emission rate after switching from E10 to non-oxygenated gasoline."

We greatly appreciate your consideration of these comments and their inclusion in the upcoming NPRM regarding the nonroad rule technical amendments. Please contact me if you have any questions

Sincerely,

Pamela Amette
Vice President

cc: Alan Stout, Linc Wehrly